

Remarks

Claims 1-38 were originally filed. Claims 1, 4, and 38 were previously amended and Claim 7 previously canceled.

Rejection Under 35 U.S.C. Section 102

Claims 1-6, 8-27, and 36-38 were rejected under Section 102(c) as being anticipated by U.S. Patent Application Publication No. 2004/ 0012872 (Fleming et al., hereinafter referred to as Fleming). This rejection is respectfully traversed for the following reasons.

Applicants have previously addressed this rejection in remarks that are incorporated herein by reference, but the Examiner has maintained the 102 rejection, based upon Fleming's disclosure of epoxy-functional silicones in Paragraphs [0080] and [0082]. Such reactive species are similarly described by Applicants, however, (at page 8, line 21, and page 9, lines 18-22) in the section of Applicants' specification entitled "(i) **Organic** Reactive Species" (which begins at page 6, line 8, and ends at page 10, line 16).

Since such materials are categorized by Applicants as being **organic** reactive species, **the proviso of Applicants' claims applies**. For example, Applicants' Claim 1 expressly states the following: **"with the proviso that when said reactive species is organic the composition further comprises a said hybrid organic/inorganic reactive species and/or a plurality of inorganic particles."**

Unlike Applicants, Fleming does not appear to teach or suggest the use of epoxy-functional silicones or other organic reactive species in combination with hybrid organic/inorganic reactive species (which are described by Applicants at page 10, line 17, through page 11, line 17) and/or inorganic particles (described at page 35, line 21, through page 39, line 10). Since Fleming neither teaches nor suggests the use of the substantially inorganic compositions specified by Applicants' claims, Applicants respectfully submit that their claimed process is indeed patentable over Fleming and respectfully request that the rejection under Section 102 be withdrawn.

Rejection Under 35 U.S.C. Section 103

Claims 28-35 were rejected under Section 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/ 0012872 (Fleming et al., hereinafter referred to as Fleming) in view of U.S. Patent Application Publication No. 2004/ 0198582 (Borrelli et al., hereinafter referred to as Borrelli). This rejection is respectfully traversed for the following reasons.

Applicants have previously addressed this rejection in remarks that are incorporated herein by reference, but the Examiner has maintained the 103 rejection, based upon the continued assertion that Borelli discloses the use of “three-dimensional structures such as gratings to deposit a semiconductor material such as silica.”

As Applicants previously explained in detail, however, the step referenced by the Examiner is **not a deposition** of any sort, and the material (silica) assertedly being “deposited” is **not a semiconductor**. Silica is silicon dioxide, which is **not** a semiconductor. (The Examiner appears to be confusing the compound “silica” with the element “silicon,” which is a semiconductor.)

The combination of Fleming and Borelli thus fails to provide Applicants’ claimed invention by failing to teach or suggest at least the use of Applicants’ substantially inorganic photoreactive composition, the use of a deposition step, and the use of a semiconductor material. Applicants therefore respectfully submit that their claimed process is indeed patentable over this combination of references and respectfully request withdrawal of the rejection under Section 103.

Interview Request

The Examiner’s response to Applicants’ request for reconsideration was puzzling to Applicants, as it did not appear to address all of the most recent clarifications provided by Applicants in their response of July 29, 2008. The Examiner appears to have either overlooked or misinterpreted at least some of Applicants’ previous remarks, as well as explicit teachings of the applied references.

Applicants’ remarks clarified that Fleming does not describe the use of epoxy silicones (or other organic reactive species) in combination with inorganic particles and/or hybrid organic/inorganic reactive species (for example, polymerizable silane compounds), as required by Applicants’ claims. Thus, Fleming clearly fails to anticipate Applicants’ claimed process.

The novelty rejection has been maintained, however, without any reference to the required combination and without other explanation.

As to Borelli, the Examiner has continued to assert that Borelli deposits a semiconductor, in spite of the fact that Borelli describes merely protecting the surface of glass from discoloration during heat treatment at 550°C by covering the glass “with a block of high purity fused silica.” Applicants have explained that silica is not a semiconductor (and, even if it were, it could not be deposited at such low temperatures and would not provide the desired refractive index contrast).

The Examiner has responded that Borelli teaches the use of “a silver doped silica i.e., it is semiconductive,” but the cited paragraph of Borelli (Paragraph [0040]) specifies “high purity fused silica.” Although it appears that Borelli’s optical elements are made from silver-halide-containing glass material, the protective block of silica used in the heat treatment step is described not as being silver doped but rather as being of high purity.

Applicants respectfully request that the Examiner carefully consider the merits of the above arguments and provide Applicants with an opportunity for a telephonic interview to address any remaining issues or concerns. The applied references neither teach nor suggest at least the use of Applicants’ substantially inorganic photoreactive composition, the use of a deposition step, and the use of a semiconductor material as recited in Applicants’ claims, and allowance of Applicants’ claims is therefore respectfully requested.

Respectfully submitted,

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Date

By: /Lucy C. Weiss/
Lucy C. Weiss, Reg. No.: 32,834
Telephone No.: (651) 399-2738

Office of Intellectual Property Counsel
3M Innovative Properties Company
Facsimile No.: 651-736-3833

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